

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Takayuki Gomi et al.

ATTORNEY DOCKET NO.: P97,2608

SERIAL NO: 08/965,286

GROUP ART UNIT: 2811

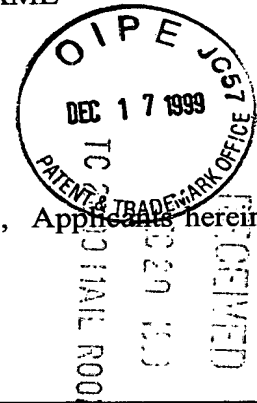
FILED: November 6, 1997

EXAMINER: O. Nadav

INVENTION: BIPOLAR TRANSISTOR AND METHOD OF THE SAME

AMENDMENT AFTER FINAL

Assistant Commissioner of Patents  
Washington, D.C. 20231  
S I R:



In response to the Final Office Action mailed on September 14, 1999, Applicants herein amend the above-identified application and respond as follows:

In the Claims:

Please amend claim 1 as follows:

do not enter  
1. (Twice Amended) A semiconductor device, comprising a first vertical type high speed NPN bipolar transistor and a second vertical type high voltage NPN bipolar transistor having a [whose] breakdown voltage which is higher than a breakdown voltage [that] of said first vertical type high speed NPN bipolar transistor, the device including an epitaxial layer formed on a silicon substrate, wherein said first vertical type high speed NPN bipolar transistor has a first embedded diffusion layer formed in an upper part of said silicon substrate, said first embedded diffusion layer [vertical type bipolar transistor] having a [the] same conductive type as said epitaxial layer and having an impurity concentration higher than that of said epitaxial layer, said second vertical high voltage NPN [type] bipolar transistor having [has] a second embedded diffusion layer formed in an upper part of said silicon substrate, said second embedded diffusion layer [vertical type bipolar transistor] having a [the] same conductive type as said epitaxial layer and having an impurity concentration less than the impurity concentration of said first embedded diffusion layer, wherein said second embedded diffusion layer is a terminal of said second vertical type high voltage NPN bipolar transistor.

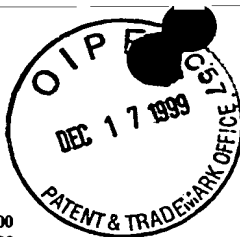
Please add new claims 19 and 20 as follows:

Sub G77  
--19. A semiconductor device according to claim 1, wherein said epitaxial layer is an effective collector layer.

20. A semiconductor device according to claim 1, wherein said second embedded diffusion layer is an effective collector layer.--

REMARKS

In paragraphs 1 through 4 of the Final Office Action dated September 14, 1999, the Examiner rejected claims 1, 3, 4, 6 and 17 of the present application under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Details of the (correctable) errors described therein will be not reiterated here.



AF/GP2811

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In re application of: Takayuki Gomi et al. ATTORNEY DOCKET NO.: P97,2608  
Serial No.: 08/965,286 GROUP ART UNIT: 2811  
Filed: November 6, 1997 EXAMINER: O. Nadav  
For: BIPOLAR TRANSISTOR AND METHOD OF THE SAME

**AMENDMENT AFTER FINAL**

Assistant Commissioner for Patents  
Washington D.C. 20231

SIR:

Transmitted herewith is an amendment in the above-identified application.

☒ No additional fee is required.

The fee has been calculated as shown below.

CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEE
TOTAL CLAIMS		MINUS			( ) X 9.00 ( ) X 18.00	
INDEP. CLAIMS		MINUS			( ) X 39.00 ( ) X 78.00	
Application amended to contain any multiple dependent claims not previously paid for.				( ) YES ( ) NO	( ) \$130.00 ( ) \$260.00 ONE TIME	
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						-0-

\* If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20 write "20" in this space.

- ☐ Applicant petitions the Commissioner of Patents and Trademarks to extend this time for response to the Office Action dated \_\_\_\_\_ or \_\_\_\_\_ months so that the period for response is extended to \_\_\_\_\_. A check in the amount of \$ \_\_\_\_\_ is attached to cover the cost of the extension. Any deficiency or overpayment should be charged or credited to deposit account No. 08-2290. A duplicate copy of this sheet is enclosed.
- ☐ A check in the amount of \$ \_\_\_\_\_ is attached.
- ☐ A check for \$ \_\_\_\_\_ accompanying IDS under 37 CFR 1.97(c) is attached.
- ☐ A check for \$ \_\_\_\_\_ and Petition for Consideration of IDS under 37 CFR 1.97(d) is attached.
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to account No. 08-2290. A duplicate of this sheet is enclosed.
- When phoning re this application, please call 312/876-0200.

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BY

(Reg. No. 39,056)

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on December 14, 1999.

William E. Vaughan

(Registration No. 39,056)

NAME OF APPLICANT'S ATTORNEY

SIGNATURE

December 14, 1999

DATE

RECEIVED  
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